

# The Acceptance Rate of Local Anaesthesia for Elective Inguinal Hernia Repair Among the Surgeons Working in a Teaching Hospital

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## ABSTRACT

The rates for three different types of anaesthesia used for elective inguinal hernia repairs were retrospectively searched for in the hospital records in 2005 and 2010. In 2005, only 2.1% of elective inguinal hernia repairs were done with local anaesthesia. General anaesthesia was used in 93.7%, whereas regional anaesthesia in 4.2% cases. No day-case outpatient surgery was recorded after any type of anaesthesia. In 2010, local anaesthesia rate increased to 16.2%. Regional anaesthesia rate also reached to 20.6%. Ninety percent of the patients who underwent hernia repair with local anaesthesia were discharged on the day of surgery.

**Key words:** *Inguinal hernia. Local anaesthesia. Regional anaesthesia. General anaesthesia. Day case.*

Today, local anaesthesia is routinely used in specialized hernia clinics. However, its use is still not a common practice in district general hospitals and teaching hospitals, in spite of its proven advantages.

Danish Hernia Database revealed that 63.6% of elective open hernia repairs were performed under general anaesthesia (GA), and 18.1% with local anaesthesia (LA).<sup>1</sup> Chan and colleagues reported that general anaesthesia was administered in 66% of cases, whereas local anaesthesia was used in only 1% of elective repairs done by surgical trainees.<sup>2</sup>

Our surgical team previously not familiar to LA, was given a special course on local anaesthesia. After 5 years, we aimed to carry out an audit for determining the rates of different types of anaesthesia in inguinal hernia repair before and after specific efforts for promoting LA.

As per the policy of our department, the type of anaesthesia is decided by the communication between the patient and the surgeon. Surgeons generally prefer the most familiar type of anaesthesia. Even surgeons who are interested in local anaesthesia may use other types when the hernia is very large, or the patient is obese. Local anaesthesia when used was supported by mild intravenous sedation provided by anaesthesiologist. In some cases, on-duty anaesthesiologist decided on a certain type of anaesthesia according to

operating theatre schedule, regardless of the surgeon's preference.

In the year 2005, only 2.1% of elective inguinal hernia repairs were done with LA. General anaesthesia was used in 93.7% and regional anaesthesia in 4.2%. No day-case outpatient surgery was recorded. In 2010, LA rate increased to 16.2% (7.7 fold). Regional anaesthesia rate also reached to 20.6% (4.9 fold). General anaesthesia was still the most common type of anaesthesia with a rate of 63.2%. Almost 92% of the patients underwent hernia repair with local anaesthesia were discharged on the day of surgery. Only 6% of the patients whose repairs were done with regional anaesthesia could be discharged on a day-case setting. All patients who received general anaesthesia stayed in the hospital for 24 hours (Table I).

**Table I:** The rates for three different types of anaesthesia used for elective inguinal hernia repair.

	LA (%)	RA (%)	GA (%)	Day-case (%)
2005	2.1	4.2	93.7	0.0
2010	16.2	20.6	63.2	20.1

LA was used in nearly one-third of operations (35.9%) after the course.

General anaesthesia with total loss of patient consciousness seems easier to most surgeons. However, LA has many advantages over general and regional anaesthesia in inguinal hernia repairs: more economical, shorter time in the operating room, shorter stay in the institution, less postoperative pain, less analgesic consumption, early ambulation, less nausea-vomiting, and less urinary retention.<sup>3</sup> Most importantly, local anaesthesia is the most suitable type of anaesthesia in elder, fragile patients and patients with ASA II-IV scores.

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Today, an anterior tension-free mesh repair like Lichtenstein operation with LA is accepted as an excellent option for inguinal hernias. Questionnaires among physicians and surgeons have shown that they would prefer open mesh repair for their inguinal hernias.<sup>4</sup> Feasibility of LA, therefore, avoiding general anaesthesia was the choice for open repair in 50% of the participants.

Many surgeons are rather diffident about their capability of success in local anaesthesia. Besides, surgeons generally display conservatism in their practice. In the present audit, LA rate increased following the course, but 2 senior surgeons still never used LA after 5 years. Five surgeons who had more than 10-year experience displayed lower LA rates in comparison with 2 junior surgeons who had less than 3-year of experience.

LA education during residency is probably an important way to enhance the use of local anaesthesia. Some European centres now have a residency program on local anaesthesia for inguinal hernia repair.<sup>5</sup> Residents could achieve comparable results with supervisor surgeons after a specific education.

Specific efforts for promoting local anaesthesia in hernia repair seem to result in partial success in the present audit. The overall LA rate in 2010 is not worse than those in general hospitals in European countries.<sup>3</sup>

A patient may have adverse experiences with LA and an assumed feeling of anxiety if awake during surgery. The fear of needle stick has been recognized as an obstacle for LA in our experience. Patient might not be given sufficient time and information about the local anaesthesia and its advantages in general hospitals because of heavy work load. Specific hernia centres are more proper settings for day case surgery and local anaesthesia. They can offer longer time to the patients for giving more complete information about the advantages of local anaesthesia.

Another problem observed in our setting is the approach of the anaesthesiologists. They may be carrying out a clinical research on general or regional anaesthesia during a certain period and may ask the surgeons to use these two types of anaesthesia. This effect is obvious in the present audit. Surgical team does not request regional anaesthesia according to current guidelines, but regional anaesthesia rate increased almost 5 fold after 5 years. Besides, intravenous sedation together with local anaesthesia offers much lower fee for anaesthesiologists than the other two types do. Moreover, surgeons have to work with different anaesthesiologists every week or month therefore, it may not be easy to establish a steady system for hernia repairs.

In conclusion, despite guidelines recommending local anaesthesia for open inguinal hernia repairs, the proportion of this technique is still low. Younger surgeons are more prone to adapt this approach. The best way to increase its use may be establishing formal courses on LA during surgical residency.

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